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FREQUENCY OF ASPECT IN ORAL AND WRITTEN VERBAL SAMPLES BY CHILDREN.

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THE FREQUENCY OF 'ASPECT' (PERFECT AND PROGRESSIVE IN THE AUXILIARY) WAS REPORTED FOR RETARDED, NORMAL, AND SUPERIOR CHILDREN ACROSS AGE AND THE ORAL AND WRITTEN LANGUAGE MODALITIES. DATA WERE LIMITED IN SEVERAL RESPECTS, PARTICULARLY SIZE OF SAMPLE. THIS IS A PILOT STUDY RATHER THAN A SERIOUS EFFORT TO UNDERSTAND PROCESSES OF LANGUAGE ACQUISITION. THE RESULTS OF THE PILOT STUDY ARE NOT MEANT TO BE OF PEDAGOGICAL OR THEORETICAL VALUE. RATHER, THE RESULTS ARE TO BE OF METHODOLOGICAL VALUE TO THE RESEARCHER WHO IS INTERESTED IN PURSUING 'PROCESS QUESTIONS.' METHODOLOGICAL CONSIDERATIONS FOR USING FREQUENCY DATA AS INDICES OF THE ACQUISITION OF GRAMMAR CONSTITUTED THE CORE OF THE PAPER. NOTABLE WAS THE USE OF RESTRICTED (UNIQUE TO A CHILD'S GRAMMAR) AND CO-OCCURRING (MOST FREQUENTLY ASSOCIATED) STRUCTURES. IT WAS CONCLUDED THAT, EXCEPT FOR THE SUPERIOR GROUPS' USAGE OF THE PERFECT IN THE WRITTEN MODALITY, THERE WERE INSUFFICIENT DATA TO SUGGEST CONCLUSIONS FOR THE PERFORMANCE VARIABLES UNDER STUDY (MA, CA, MODALITIES). WITH RESPECT TO RESTRICTED STRUCTURES, THE PATTERNS OF TYPE AND CO-OCCURRING STRUCTURES WERE SIMILAR FOR BOTH DIMENSIONS OF ASPECT. IT IS RECOMMENDED THAT FURTHER RESEARCH ON ASPECT BE CONDUCTED OVER LARGER SAMPLES. (AUTHOR/BO'D)

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Frequency of Aspect in Oral and Written Verbal Samples by Children

by

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Frequency of Aspect in Oral and Written Verbal Samples by Children

Like most traditional studies of grammar, this study reports the frequency of dimensions of grammar. And in a structuralistic vain, this study reports the frequency of structures of grammar. However, the underlying theory of grammar for the present study places it outside of the frameworks of traditional and structuralistic studies. The present study is based upon a specific dimension of the transformational generative (TR) theory of grammar.

A study that deals with the frequency of dimensions of grammar and is purported to be of value to the TR theory of grammar needs some explanation. The notion of frequency pertains to performance. Subject and modality performance in the theory of language acquisition are of interest here rather than situational performance. Inasmuch as language acquisition is the focus, frequency is regarded as an index of progressive approximations of a given dimension of grammar (rule) toward obtaining a target grammar. That is to say, as a person acquires skill in using a particular dimension of grammar in various structures, the frequency of usage may be an index of this skill.

However, such an ambitious claim ought not be made for a frequency study. By placing this study in the transformational generative grammar (TR) camp and by aiming toward language acquisition, a frequency study is automatically relegated to a pilot study. Psycholinguists, employing TR, seek to explain processes of language acquisition. Their inquiries are based upon the observation that acquisition of a target grammar is gained from a continuum of subgrammars that successively approximate target grammars. Within this

continuum, rules have been shown to evolve one from another. It is somewhat facetious to expect to segment this continuum on an a priori basis, make a frequency count, and take the count as a measurement of acquisition of grammar. Such a procedure leads to errors in terms of clouding an inquiry into the processes of language acquisition. The most common error is that of superimposing rules of a target grammar upon non-target grammars. It is just such an 'error' that is 'committed' in the present study.

After a rather convincing argument against myself, I feel compelled to make a defense, the defense is in essence an appeal for an acceptance of the superficiality of the all/or none principle.

The first point has been made already but it needs to be reiterated. This is a pilot study rather than a serious effort to understand processes of language acquisition. The results of the pilot study are not meant to be of pedagogical or theoretical value. Rather, the results are to be of methodological value to the researcher who is interested in pursuing 'process questions.' As a pilot study, a specific dimension of the target grammar was measured.

Secondly, the frequency of usage of a target dimension serves to delimit, to some extent, an upper limit of acquisition. The lower limit is assumed to be the particular dimension of grammar that was evidenced prior to the initial kernel dimension in question. Thus, this frequency study serves to set-off, in terms of subject and modality variables, a scope or even a matrix in which the acquisition processes may be studied. For instance, a given dimension of a target grammar may not be used as frequently by the retarded as by normals in speech; thus, it would behoove a researcher to study that particular dimension of grammar with the two populations separate.

The mention of subject variables brings up the third point. TR theory places language competence in a biological domain and regards it as a constant. TR theory places acquisition of grammar in a performance domain. Cazden (1966) discusses two types of performance. Performance A pertains to subject variables whereas performance B pertains to sociological and environmental variables. This study deals mainly with performance A. Subject variables may be approached from two points of view. Subjects may be studied who possess only certain explicit characteristics such as short or long memory span, predominantly visual, auditory, kinesthetic, or tactle imagery, short or long attention span, etc. Or, subject populations may have certain mutual symptomatic traits but within a group evidence variance in a constellation of explicit characteristics. Needless to say, whichever approach is taken, compromises are required. The present study is based upon group variables.

Fourth, in that the study is based on the TR theory of grammar, the specific dimensions of grammar are presumed to be both formal and explicit.

In summary, a frequency study is proposed that is purported to be within the framework of the TR theory of grammar. It is a pilot study which measures certain dimensions of a target grammar and attempts to measure the upper limit of acquisition according to certain subject population variables as opposed to linguistic skills.

Before stopping here, it is necessary to make one further comment as to the possibility that frequency data may be a poor index of acquisition. Frequency is affected by other than developmental factors such as by habit strength and facilitation by co-occurring

grammatical structures, etc. Nevertheless, frequency of usage was chosen in difference to a single instance for two reasons. A single instance may exist and at the same time restricted forms may co-occur. Secondly, a single instance raises questions in regard to influences of available models and the role of imitation rather than acquisition.

The Aspect Dimension of Auxiliary

TR grammar has contributed considerably towards a formal understanding of the phrase structure rules of grammar. These contributions extend to developmental studies (Braine, 1963; Ervin, 1964; Brown & Bellugi, 1964; McNeill, 1966; Menyuk, 1963, 1963). These studies have given rather convincing evidence that most phrase structural rules are learned when the child is between the ages of two and six years. In the course of following the development of phrase structure rules, it appears that the rules of auxiliary are developed relatively late. This point can be gleaned from Lee's (1966) matrix of sentence development and is given some substance by Menyuk's data. Indeed, within the auxiliary, the aspect dimension appears to develop much later than the tense and modal dimensions. Muma (1967) found very few instances of aspect in the speech of four year old children. Hunt (1964) reported a low frequency of aspect in written samples by fourth graders as compared with that of eighth and twelfth graders. In both studies the frequency of progressive was markedly greater that of the perfect for young children. The relative frequency of the dimensions of aspect in the auxiliary warrant study.

Performance: Subject and Language Modality Variables

There are many questions regarding language that need to be posed. Among the most profound questions are those that deal with language performance (both subject variables and social and environmental variables). Inasmuch as the present study employs frequency data, the hypotheses were cast within the framework of performance variables. The general question was the following: Can a meaningful range of usage of aspect be determined without regard to language modality, mental age, or chronological age? A corollary question was: Are there significant differences between the two dimensions of aspect across subject and language modality variables? Moreover, inasmuch as aspect seems to evolve from other dimensions of the auxiliary and inasmuch as frequency of usage is to be used on a pilot basis, only the upper limit of the range need be measured. The lower limit is assumed to be the auxiliary structure that preceded the first instance of aspect.

The specific hypotheses are as follows:

(a) There is no difference in frequency of usage of aspect between oral and written samples.

(b) There is no difference in frequency of usage of aspect between the following chronological age levels: 4, 5, 6, 7, 8, 9, 10, and 11 years (oral), and 8, 9, 10, and 11 years (written).

(c) There is no difference in frequency of usage of aspect between children who are retarded, normal, or superior in intelligence.

(d) There is no difference in frequency of usage between the

two dimensions of aspect for the subject and language modality variables under study.

Procedure

Definition of Aspect

According to the phrase structure rules of TR grammar, the definition of auxiliary for a target grammar is the following: aux→ C ÷ (modal) + (aspect). Aspect is defined as: aspect → (have + part) ÷ (be + ing). The (have ÷ part) dimension is called 'perfect' whereas the (be ÷ ing) dimension is called 'progressive.' In that these definitions appear in the TR theory of grammar, they are presumed to be formal and explicit. Moreover, they represent specific dimensions in an adult or target grammar. Data were the number of times these two dimensions of auxiliary occurred in the language samples. In addition to the incidence of aspect, restricted structures of aspect were reported.

Language Modalities

The oral and written language modalities were of interest to the present study. Oral and written samples were handled somewhat differently in terms of eliciting and transcribing (described below). However, once they were transcribed, the segmentation and assessment of frequency of aspect were the same for oral and written samples.

Subject Variables

Subject variables under study were CA and MA.[1] Subjects were matched by CA. In regard to the oral language samples, the number of subjects who were retarded, normal, or superior in intelligence

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[1] A full description of the subject variables will appear in a master report that is forthcoming.

was four, four, and four, respectively, for each age level under study. Similarly, the number of subjects for written samples was four, eight, and six, respectively. The age levels for oral language were 4, 5, 6, 7, 8, 9, 10, and 11 years. The age levels for written language were 8, 9, 10, and 11 years.

Language Sampling and Segmenting

It was assumed that spontaneous language samples provided the best data for evaluating acquisition of certain dimensions of syntax. Thus, oral and written samples were obtained under conditions which allowed subjects to be as spontaneous as they wished. Subjects were provided topics on which they were requested to talk or write. While responses did occur, attempts were made to minimize these occurrences.

Oral samples were taperecorded and transcribed into written form. Written samples were obtained from teacher assignments within the classroom. The samples were segmented into mazes and T-units. Mazes were extraneous verbal material that could not be regarded as a part of a T-unit. A T-unit was the minimal terminal unit as first described by Hunt (1964) and used by O'Donnell (1965). T-units were the shortest possible (acceptable) verbal string that can begin with a capital letter and end with a period. There were three categories of T-units (+, 0, -). A (+) T-unit was one that was completely intact and presented no particular obstacle in regard to reliability. Imperative sentences were rated (+). A (0) T-unit was one that required a single minor interpretation to complete. A (-) T-unit was one the required two or more minor interpretations to complete. Language sample sizes of fifty (+) T-units were required and obtained for all subjects.

This requirement led to repeated samples. Different topics were used for each new language sample. The topics were assumed to be familiar and of high interest to the subjects.

Results

Table 1 shows the frequency of the two dimensions of aspect in fifty T-unit language samples according to modality, and CA and MA groups. Inasmuch as there were eight subjects in all cells for the oral section and the retarded group in the written section, it was necessary to equate the entries in the remaining cells of the written section. Accordingly, cell entries were calculated to represent the frequency of a particular dimension of aspect on the basis of eight subjects or 400 T-units per cell. Inspection of the table shows that there were relatively small differences in usage of both dimensions of aspect across the subject and modality variables studied. The greatest differences seemed to be between the superior group and the normal and retarded groups in usage of past perfect. A comparison of usage of progressive to perfect showed a higher frequency for progressive. However, these two findings appeared to be generally small in a distribution that was otherwise unremarkable. In short, the evidence was rather meager that any subject or modality variables represent an important (significant) difference. However, this conclusion should be guarded for two reasons. First, the data were limited. They were limited in the number of observations of aspect (which in turn is related to sample size among other things) and in number of subjects. Second, a frequency study may not be an appropriate approach to the question of acquisition.

Table 1. The Frequency of the Two Dimensions of Aspect in 50 T-unit Language Samples According to Modality, CA, and MA Groups

Aspect	Progressive						Perfect					
Modality	Oral[1]				Written[2]		Oral[1]				Written[2]	
Age	4-5	6-7	8-9	10-11	8-9	10-11	4-5	6-7	8-9	10-11	8-9	10-11
Superior	19	24	19	23	12	18	22	19	12	17	12	33
Normal	7	11	15	24	17	26	6	1	6	7	8	14
Retarded	20	12	22	25	13	7	7	5	9	7	4	3

[1] N=8 subjects per cell

[2] N=8R, 16N, 12S per cell. However, the tabled values were equated to N=8 subjects per cell so that all tabled entries would be comparable.

Table 2 shows the number of subjects (of a possible eight) that used the two dimensions of aspect in fifty T-unit language samples according to modality, and CA and MA groups. This table was prepared as an incidental inquiry in view of the fact that this type of approach has been of value elsewhere (Menyuk, 1963a). However, eight subjects is simply too small a sample to draw any conclusions. The most that can be done is peruse the table for marked differences. Again, the biggest contrast was between the superior groups and the normal and retarded groups in usage of past perfect.

While the above results on frequency data were generally limited, there were additional clinical data that appeared to have value for the understanding of the acquisition of aspect. The acquisition of these two structures is not a simple yes-no proposition. Certain structures seem to be more likely to co-occur with aspect than other structures. This is reflected in the observation that aspect seems to co-occur with certain structures more frequently than others. Indeed, aspect was found to be intact or complete with certain co-occurring structures yet restricted with other co-occurring structures. Thus, whereas frequency of aspect might be taken as an index of acquisition, the type of co-occurring structures is another important dimension of acquisition. This point is outlined in the following hypothetical comparison. Person A is delayed in acquisition of syntax. He has acquired the aspect dimension within a limited number of co-occurring structures. Person A's performance reveals a redundacy in usage of aspect and range of co-occurring structures. Person B is advanced in language acquisition; he has acquired the aspect dimension within all of the possible co-occurring structures

Table 2. The Number of Subjects That Used The Two Dimensions of Aspect in 50 T-unit Language Samples According to Modality and CA, and MA Groups

Aspect	Progressive						Perfect					
Modality	Oral[1]				Written[2]		Oral[1]				Written[2]	
Age	4-5	6-7	8-9	10-11	8-9	10-11	4-5	6-7	8-9	10-11	8-9	10-11
Superior	8	6	6	6	6	6	5	7	6	8	6	8
Normal	4	7	8	7	7	7	3	1	2	5	6	6
Retarded	7	5	7	8	5	4	3	3	3	3	3	3

[1] N=8 subjects per cell

[2] N=8R, 16N, 12S per cell. However, the tabled values were equated to N=8 subjects per cell so that all tabled entries would be comparable.

that are acceptable in an adult grammar. A comparison of frequency of usage of aspect in equal speech sample sizes shows no difference in frequency of usage whereas they differ considerable in their knowledge of aspect with various co-occurring structures.

Just as frequency data may be a possible index of an upper limit in the syntactic processes of acquisition of aspect, restricted structures of aspect may be taken as a possible index of the upper limit of mastery of co-occurring structures. Restricted structures of aspect are instances of aspect that do not correspond to the acceptable adult forms; from a traditional point of view, they are 'errors' in grammar.

Table 3 and 4 report a summary of restricted structures of the progressive and perfect with the most frequent co-occurring structures. It is thought that a more adequate presentation of the processes of acquisition would include instances of intact as well as restricted structures of aspect and intact as well as restrictre co-occurring structures. These data were coalesced across performance variables because of limited data. Inspect of Table 3 shows that omissions of <u>be</u> was the most common type of restricted form. In regard to co-occurring structures, restricted forms seemed to occur most often when verb complements and pre-verbals were used. Inspect of Table 4 shows that restricted forms of perfect occurred as omissions of or replacements for <u>have</u>. These restricted forms occurred most often when complements and pre-verbals were used. A comparison of Tables 3 and 4 seems to indicate that restricted structures of both dimensions of aspect are similar in type and relative frequency of co-occurring structures.

Table 3. A Summary of Restricted Structures of Progressive with Its Most Frequent Co-occurring Structures

Type[1]	Restricted Form		Example	f
O	be + ing	be	He is run	0
O	be + ing	ing	I going	4
O	be + ing + (comp)	ing + (comp)		
		(infinitive)	I going to tell[2]	5
		(prep. phrase)	I going to the beach	2
		(NP)	My daddy buying him it	5
		(to ∅ + ing)	This party going being hard	1
O	be + ing + (comp)	be + (infinitive)	I was plan then to go	1
P	be + ing	ing	What you reading?	2
P	not + be + ing	not + ing	I not going	3
P	always + be + ing	always + ing	It always making me mad	1
E	be + ing	Demon. + be + NP + ing	There's the dog waiting for her	2
C	have + part + be + ing	have + part + be	He has been sleep	5
			Total	31

[1]Types of restricted forms: O=omission, P=preverbal, E=expletive, C=complete aspect

[2]Some of these forms may not be infinitives but a part of auxiliary; for example "going to" is equivalent to 'will' above.

Table 4. A Summary of Restricted Structures of Perfect with Its Most Frequent Co-occurring Structures

Type[1]	Restricted Form		Example	f
O	have + part	have	He has get one	0
O	have + part	part	I been sick	6
O	have + part + (comp)	part + (comp)		
		(infinitive)	She run to work	2
		(prep. phrase)	I been to a party	3
R	have + part	got	I got some	8
		got + (infinitive)	You got to find it[2]	9
R	have + part	done + part + NP	I done forgot it	7
P	not + have + part	not + part	That never been explored	1
P	not + have + part	ain't never + part	We ain't never been to one	5
PR		ain't got + not	I ain't got no best friend	1
PR	already + have + part	already got	We already got a dog	1
P	have + NP + part + V	NP + part + V	You seen it?	2
S	have + part	have	Teacher has just ask	1
			Total	46

[1]Types of restricted forms: O=ommission, R=replacement, P=preverbal, S=phonological

[2]Some of these forms may not be infinitives but a part of auxiliary; for example, "got to" is equivalent to 'must' above.

In summary, this is a pilot study. Except for the superior groups' usage of the perfect in the written modality, there were insufficient data to suggest conclusions for the performance variables under study (MA, CA, modalities). The frequency of usage of progressive appears to be relatively higher than that for perfect. In regard to restricted structures, the patterns of type and co-occurring structures were very similar for both dimensions of aspect. It is recommended that further research on aspect be conducted over larger samples.

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